

THAT WHICH IS CLAIMED IS

1. A system for collecting, storing, and displaying particle measurement data comprising:

a plurality of particle measuring instruments for repeatedly measuring the number of particles and for determining an accumulated particle count based upon a plurality of measurements;

a plurality of converters for converting the accumulated particle counts provided by the plurality of particle measuring instruments in accordance with a computer network protocol and providing the accumulated particle counts following conversion in accordance with the computer network protocol;

a process data collection device for providing process data from other than particle measuring instruments;

a computer network for receiving and storing the accumulated particle counts and the process data, said computer network receiving the process data from said process data collection device in a manner independent of said particle measuring instruments; and

a graphic user interface for displaying and retrieving at least some of the accumulated particle counts or process data.

2. A system according to claim 1 wherein said plurality of particle measuring instruments also determine differential particle counts based on the plurality of measurements and said converter converts said differential particle counts in accordance with the computer network protocol and provides the differential particle counts following conversion to the computer network.

3. A system according to claim 1 wherein said plurality of particle measuring instruments also determine instrument data based on particle measuring instrument operating parameters and said converter converts said instrument data in accordance with the computer network protocol and provides the instrument data following conversion to the computer network.

4. A system according to claim 3 wherein said instrument data is based on operating parameters selected from the group consisting of a device label, a date, a time, a manifold position, and a power supply voltage.

5. A system according to claim 4 wherein said computer network includes a memory buffer for collecting accumulated particle count and instrument data, a parser for distinguishing the instrument data and accumulated particle counting data, and a database for individually storing said particle count and instrument data following parsing.

6. A system according to claim 5 wherein said computer network stores said particle count data in the database and associates a respective name with the particle count data according to said instrument data relating thereto.

7. A system according to claim 4 wherein said computer network includes a fault identifier which detects and monitors erroneous instrument data.

8. A system according to claim 7 wherein said graphic user interface provides a graphic representation of the erroneous instrument data.

9. A system according to claim 1 wherein said plurality of particle measuring instruments determine accumulated particle counts in accordance with a predetermined particle size.

10. A system according to claim 9 wherein said plurality of particle measuring instruments determine differential particle counts in accordance with the predetermined particle size.

11. A system according to claim 9 wherein said graphic user interface permits definition of the predetermined particle size and subsequently displays the accumulated particle count in accordance with the predetermined particle size.

12. A system according to claim 1 wherein the process data collection device collects data from at least one of a relative humidity monitoring device, a temperature monitoring device, and a pressure monitoring device.

5 13. A system according to claim 1 wherein said plurality of particle measuring instruments are selected from the group consisting of an aerosol particle measuring instrument, a gas measuring device, and a liquid particle measuring instrument.

10 14. A method for collecting, storing, and displaying particle measurement data from a plurality of particle measuring instruments comprising:
repeatedly measuring particles from a plurality of remote locations;
calculating an accumulated particle count for each remote location;
determining process data other than particle measurements from a plurality of remote process data measuring locations;
15 transmitting accumulated particle counts and process data from each remote location via a computer network, wherein transmitting the process data comprises providing the process data to the computer network in a manner independent of the accumulated particle counts;
storing accumulated particle counts and process data; and
20 displaying at least some of the accumulated particle counts and process data graphically.

15 15. A method according to claim 14 wherein said calculating step includes calculating differential particle counts for each remote location, said transmitting step includes transmitting differential particle counts, and said displaying step includes displaying at least some of the differential particle counts graphically.

30 16. A method according to claim 15 wherein said displaying step further comprises selectively displaying at least one of the differential particle counts and the accumulated particle counts.

17. A method according to claim 14 wherein said measuring step includes discriminating particle counts by particle size.

18. A method according to claim 17 wherein said displaying step further
5 comprises selectively displaying accumulated particle counts for a predetermined particle size.

19. A method according to claim 14 wherein said determining step includes determining process data including a relative humidity, a temperature, and a pressure.

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20. A method according to claim 14 wherein said transmitting step includes transmitting instrument data other than particle counts from a plurality of particle measuring instruments, wherein the method further comprises parsing the accumulated particle counts from the instrument data, and wherein said storing step includes storing
15 accumulated particle counts and associating a respective name with the accumulated particle counts according to the instrument data relating thereto.

21. A method according to claim 20 further comprising identifying and monitoring erroneous instrument data.

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22. A method according to claim 21 wherein said displaying step includes displaying a graphic representation of erroneous instrument data.